Archiving memories of changing flood risk: interdisciplinary explorations around knowledge for resilience

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Abstract

The paper explores the changing nature of the flood archive drawing on different disciplinary perspectives, approaches and attitudes. It uses a braiding metaphor to map a journey around shifting islands that contain different primary research on flood archives - in expert hydrology, in lay flood knowledges, in capturing flood narratives and memories, in drawing on folk song as an informal archive, and in charting archives for a fluid landscape. The narrative and critical commentary 'in the p[//flow' draws out interlinking themes, exploring what forms of archive can capture, and share reflections on, a landscape that is increasingly or episodically wet – a fluid landscape? It explores different facets of the flood archive: in terms of fact versus fiction, the changing nature of material archived, who archives, changing archival practice, changing use of archives, and future archives. It concludes that informal archives have the potential to form a key resource in communities learning to live with changing flood risk and uncertainty.

Keywords: archives, flood, heritage, knowledge

> 'Archives have the power to privilege and to marginalize. They can be a tool of hegemony; they can be a tool of resistance. They both reflect and constitute power relations. They are a product of society's need for information… They are the basis for and validation of the stories we tell ourselves, the story-telling narratives that give cohesion and meaning to individuals, groups, and societies.' (Schwartz and Cook 2002: 13).

Navigating the flow

Archiving as practice has a long history. Current issues include the changing nature of institutional stewardship and the development of stakeholder collaborations (Neale and Bishop 2012); the dual role of resource preservation and resource creation within communities (Kunda and Anderson-Wilk 2011); the evolving nature of digital archives; and the relationship between culture and what is archived (Featherstone 2000). Cultural theorists like Jacques Derrida (1996) reflect on the archiving power of institutions, and the ways in which archives structure their contents in terms of 'perspectives on human knowledge, memory, and power, and a quest for justice' (see Schwartz and Cook 2002: 10). Expert and informal/lay/local knowledges alike have traditionally drawn on archives as evidence bases that record and materialise floods – their physical character (size, frequency, seasonality and causal characteristics) and how they are experienced (their physical and human impacts; the preparedness, response and learning of those affected and responsible for action). Floods are materialised within archives in increasingly diverse ways and settings, posing questions about the nature of these archives (what is included; what is not), and the spectrum of archival practice from scientific, objective, mechanical and validated, to creative processes and artistic practices. Archives also span from 'official' to 'unofficial', and vary in the extent that they are owned and used by different groups – both 'expert' and 'local'. This poses questions about: 'who are flood archives for – past, present and future?' This is critical as such archives therefore provide a key evidence base for remembering floods - both past and recent, and in formal and social learning for increased resilience against future flood risk in increasingly fluid landscapes.

The authors of this paper work with archives from different disciplinary and professional standpoints - as hydrologists/ geographers, active in flood risk assessment and management; as a media specialist who uses technology to capture individual narratives; and as practising artists. To accommodate these different viewpoints and knowledge bases, to link them and allow them to exchange opinions and trade ideas while speaking in their own languages and dialects, we have used a fluvial metaphor in constructing this paper. A chain of islands (individual contributions) explores different disciplinary constructions of archives in flood materialisation, interlinked and cross cut by dissecting 'flows'. Each island reflects from different disciplinary/ professional settings on the extent to which archiving of flood character and

flood experiences can be seen as an objective or creative process, and how this extent informs its subsequent use and application. The river journey braids through islands of 'primary research' - archiving in expert hydrology and lay flood knowledges, capturing flood narratives and memories, folk song as an informal archive, and archives for a fluid landscape. The narrative and critical commentary 'in the flow' draws out interlinking themes, exploring what forms of archive can capture, and share reflections on, a landscape that is increasingly or episodically wet – a fluid landscape. Yet this discussion is itself affected by the islands, ebbs and flows, comes sometimes quickly and sometimes slow, forcing us as does floodwater, to constantly change the way that we respond to it. There are also two short pieces of 'flotsam', which add to the overall picture that we are trying to create, yet, like all appendixes, only really make sense within the context of the larger article. These appear as saved objects, as possessions almost randomly grabbed from the encroaching floodwater, and similarly making no sense outside of the trauma of the flood event.

The paper's impetus was the AHRC funded 'Researching Environmental Change' network *Learning to Live with Water: Flood Histories, Environmental Change, Remembrance and Resilience* (hereafter Living Flood Histories network) which explored the subject through a series of workshops and conferences, and which deliberately sought out and brought together practitioners from a variety of disciplines who would probably never have otherwise met. While we are all used to adding to the research in our own fields, we look at research in other fields without knowing how to assimilate it into what we are doing. Yet the problem of flooding, of changing wetlands is no more a solely scientific one than it is a purely cultural one. How do our different disciplinary and professional positions influence our perceptions and selections from archives (cf. Bailey *et al*. 2009)? In this paper, we look at ways that we might work more holistically, bouncing ideas back and forth between disciplines in what, for us, has been a highly creative atmosphere.

Island 1: Flood hydrology

Epigraphic records: formal flood archiving as expert knowledge

Epigraphic markings are the lines, nicks, or scores indicating the maximum level of flood waters during 'historic' events. Such markings are common across much of Europe, and have been used to document historical flood extent and magnitude for several centuries (Macdonald 2007). They are predominantly, but not necessarily, found in urban centres adjacent to rivers, often located on structures near the river that can be easily viewed during and after flood events (Figure 1).

Figure 1: Flood marks in Budapest (R. Danube) on a building adjacent to the river (source: Neil MacDonald)

As a result, most records are preserved on bridges (or on their buttresses) and walls (defensive and domestic structures; Figure 2).

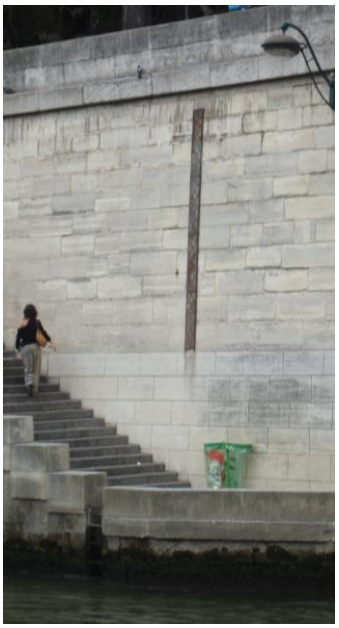

Figure 2: Flood marking near the top left of the stage-board indicating the 1910 flood level in Paris (R. Seine) (source: Neil MacDonald)

Epigraphic records represent a valuable information resource when reconstructing past flood events and in understanding the nature, magnitude and frequency of extreme floods, and, on rare occasions, also contain information relating to droughts. Epigraphic markings occur either as series of severe floods or single markings recording extreme events; they have historically preserved information concerning the magnitude of past events, providing flood level information for specific points. Recent advances in database technology have seen the development of new resources documenting not just epigraphic markings, but also documentary or archival data. The British Hydrological Society's *Chronology of British Hydrological Events* (Black and Law 2004) and the development of a geospatial database documenting epigraphic records across France (Reperes de crues-seine) are but two examples of new databases providing centralised historical flood information at a national level.

Such 'official' flood marking in formal settings can be integrated with expert flood monitoring to improve analysis of local flood risk. Historical flood information, particularly epigraphic records, is increasingly used by hydrologists as a tool in the improvement of flood risk assessment, through the advancement of high-magnitude low-frequency flood reanalysis (Macdonald *et al.* 2006; Macdonald and Black 2010), the reconstruction of hydraulic processes (Hergert and Meurs 2010; Wetter *et al.* 2011) and in establishing past flood patterns over historic timespans (McEwen 2006). Epigraphic markings are often retained on structures for long periods, but inevitably over time some are lost. Efforts are sometimes made to retain them during redevelopment (the original flood marks on the medieval Hethbeth Bridge in Nottingham, UK were transferred in the 1890s to the new bridge's buttress; Macdonald in press). Official marks may also act as a means/place of remembrance for families who have lost property, family or friends in the flood (Figure 3).

Figure 3: The Kavalier (glassmakers) family portrait in front of flood marks denoting two extreme floods in Sázava (R. Sázava, a tributary of the R. Vltava). These marks have over the intervening period been lost. (source unknown)

The value of historic flood marking has increased in recent years through its use as a tool to improve longer-term hydrological risk assessment by expert scientists – so augmenting evidence from more recent official gauged flow records. Flood materialisation through marking, representing everyday reminders of extreme flood levels, can also have a significant role promoting flood heritage and social learning within floodplain groups (McEwen 2011). This poses questions about the potential and actual role of flood archiving of lay knowledges about floods and changing flood risk for community resilience. It also has implications for science, democracy and the redistribution of expertise (Whatmore 2009).

Island 2: Informal flood knowledges

'Muckle spates' and other 'hurlies' – lay flood marking and materialisation

In contrast to official epigraphic marking, informal/lay flood recording, as a persistent practice, takes place by individuals or communities at local points of reference that have personal or community resonance (McEwen and Jones 2012). Such marking historically occurred on churches, locks, public houses, streets; now also found in tea rooms, garages and inside individual flooded houses (Figure 4). In the UK, extended histories exist of informal marking before the commence of continuous flow monitoring by UK government authorities (1930s onwards), corroborated by reconstructions based on documents in local archives. This example account of 18th century marking at Watergate, Worcester, UK provides insights into the aspirations for accuracy and reliability in recording extremes. There are now over 19 flood marks at Westgate (1672 – present; Figure 4C).

'In the year 1672, an extraordinary rise of the River Severn was noticed against a wall by the side of the river near the College Green, in Worcester, and a plate still remains in the wall, recording that event. In order that it might be known how much the present flood [November 1770] exceeded that, the Hon. and Rev. Dr. Digby, Dean of the Cathedral, engaged a proper person to watch the rise of the water against the same wall, and to observe its utmost reach, which it seems, was about 2 o'clock last Sunday morning, when it had risen 10 ins. above high water mark of the year 1672.' (Gloucester Journal, 1770)

Variations occur in lay flood marking practice in Europe and internationally, reflecting local geoheritage, culture and artistic practice. In Norway, for example, robust slabs of local rock with flood heights or ('flaume merker') record and share local flood histories (Figure 5). Forms of lay flood marking have also changed over time with technological advances, e.g. through use of social networking for informal archiving of floods. Such evidence, captured on smart phones as floods play out, can both be shared in

online communities and used by expert hydrologists in flood modelling (see '*Morpeth floods*'; Parkin, 2010). This poses questions about the changing processes of, and motivations for, informal flood marking in different flood risk settings (whether riverine, pluvial, coastal, dam bursts), their relationships with official 'expert' marking, and how the relationships between 'expert' and 'lay' interweave and change over time. The continuum between official and lay marking is increasingly blurred (Figure 6C), alongside who is perceived as 'expert'. There are also issues around the authentication of lay flood marking, and whether such validation matters in community memory. On the Longford Inn, Gloucester, UK, for example, the mark of the 'November 1618 flood' (Figure 4A) is not corroborated by other archival sources and is likely invention.

Meanings or associations of informal flood marking integrate different themes including: local highest instantaneous flood levels, local awareness of extreme flood risk potential, and memorials for awe-inspiring episodic acts of nature, as well as major disruption and possible loss of life. Individual floods can be named by communities, e.g. Storofsen 'terrible event' in July 1789, Norway or 'the Muckle Spate of 1829', north-east, Scotland (McEwen and Werritty 2007; Figure 5). These names are passed down through generations as extreme acts of nature in local lore and narrative. Informal flood marking (both physical and in oral history) can materialise and memorialise these floods for communities, providing an everyday links with their local flood histories, 'marking' flood heritage from below (Robertson 2012). Such archives underpin the development of informal knowledges and inter-generational 'flood memory' (McEwen *et al*., 2012; Krause *et al*., this volume).

There are examples where 'heritage from below' is asserted over and above the hegemonic. For example in Upton-upon-Severn, UK, the 'official' 1947 flood mark was repositioned by community representatives in 2009 (Figure 4E). Informal flood marks as an archive can also have variable persistence. For example, Charles MacIntosh, a rural postman known as the 'Perthshire Naturalist', marked 19th century flood heights on the River Tay, Scotland on a tree at Inver, Perthshire (McEwen 2006; Figure 6). The November 1770 flood, most extreme in the historic period on the River Severn, was marked in several locations in Gloucester (*Gloucester Echo* 1770); all marks are now gone. During the July 2007 floods on the River Severn, flood marks were chalked on buildings and roads (Figure 4B/D). Some were later made permanent, others removed to forget and 'return to business as usual', physically erased from local memory. This poses questions about communities' relationships with flood marks – past, present and future - including communities that do and do not mark and archive, and those that remove marks. Flood marks are unprotected in UK planning processes, and frequently disappear in re-development or post flood recovery. What can be learnt from different processes and motivations for

historic lay flood marking that can be brought to local practices to develop community resilience in contemporary climate change contexts?

Figure 4: Informal flood marking in local settings in the River Seven valley: (A) Flood mark at Longford inn, Gloucester (flood not indicated in other archival sources); (B) New and re-painted (1947) flood marks - Red Lion Public House at Wainlode Hill, Lower Severn near Gloucester with 2007 flood mark made permanent; (C) Series of flood marks (1672- to present) at Watergate, Gloucester; (D) Informal 2007 flood mark on Swan Inn, Upton upon Severn now removed (as were flood marks on the gantry in the refurbishment); (E) Series of flood marks (with 1947 height recently corrected) at Upton-upon-Severn (F) 1990 Severn flood being marked as part of a series going back to 1757 (flood marks since removed with property redevelopment; source: Gloucestershire Echo).

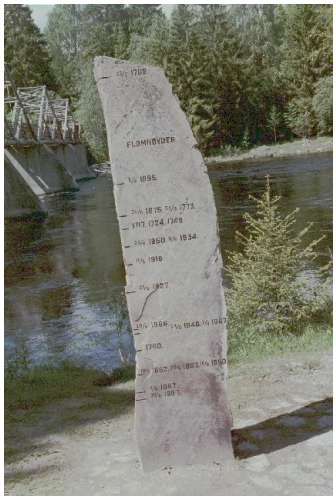

Figure 5: Norwegian flood marker at the Forestry Museum at Everum, near River Glomma. The stone shows the level of Storofsen in Østerdalen as well as the level of the earliest flood with known flood level, the spring flood of 1675 (photo- Lars Roald)

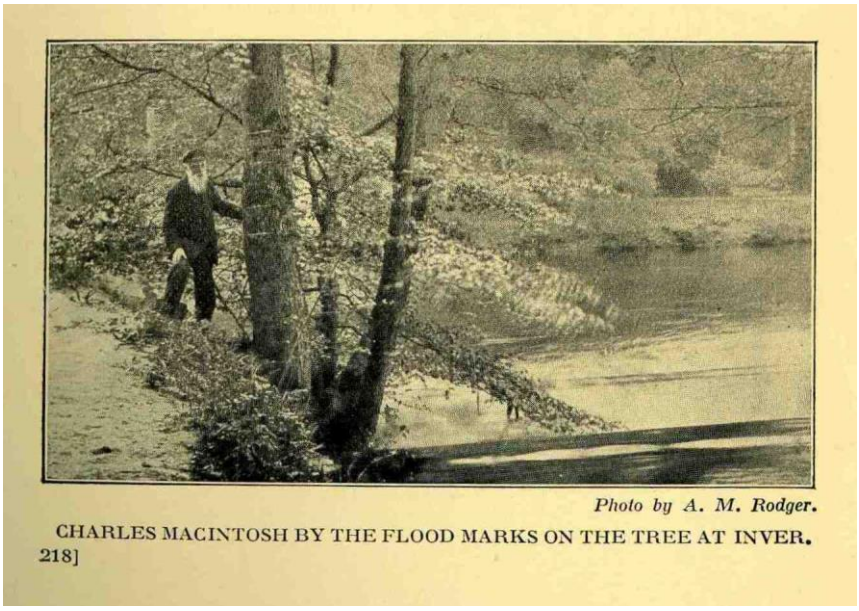

Photo by A. M. Rodger.

CHARLES MACINTOSH BY THE FLOOD MARKS ON THE TREE AT INVER.

218]

Figure 6: The 'Perthshire Naturalist' Charles Macintosh with his marking of 19th century floods on a tree at Inver, River Tay, Scotland (Coates, 1923)

So flood heritage can be validated through materialising and archiving floods in diverse ways including contemporary writing, oral history, photographs, in poetry and painting, located in formal (county museums and records offices) and informal (flooded houses) settings. Captured flood stories or narratives can provide new insights into personal perceptions of changing flood impacts and changing community resilience in the shift from 'dry to wet', or from 'normal' floods to real extremes. In the UK that shift and the resulting stories have been archived digitally in the *Capture Wales* project, an initiative where multimedia has not only been used to collect the narrative of the flooding of the Welsh Valleys, dragging them into service as reservoirs, but has made those stories available, indeed instantly accessible, to the very people whose lives have been affected by them. Here we have an example of an official archive (published and owned by the BBC) also serving as a community archive, a place where people feel ownership of the material and see their own collections (unofficial archives) becoming part of a larger, recognised, perhaps to their minds validated, archive.

Island 3: Capturing flood narratives and memories

'Capture Wales' and digital story telling

The process of digital storytelling is one of personal curation of archive and memory, resulting in a "bricolage" that offers a glimpse into the life of the individual and, often, their local community. Many of the participants in the BBC *Capture Wales* project (www.bbc.co.uk/capturewales) chose to create and share stories of community resilience, with particular reference to the role played by themselves or their family when their local community was facing adversity. The hundreds of digital stories co-created between the BBC and members of the public offer:

"... an inspiring body of work, a gaggle of invisible histories which come together in the ether of the Internet to tell the bigger story of our time. These are stories which validate each of our unique experiences of the everyday." (Meadows *et al*. 2006: 2).

In the context of flood memories, there is one particular story in the archive that exemplifies the opportunity that the digital story creation process offers the storyteller to be both reflective when calling upon their individual memory (along with the shared community memory) in order to construct their script, and thoughtfully selective when choosing photographs from their personal archive to accompany their voice recording. "The Lost Valleys" by Betty Davies (BBC 2009), was created in a Capture Wales workshop in her home town of Rhayader, in rural mid-Wales, in 2003. This story tells of the impact of a dam built to flood her beloved valley (Figure 7), many decades previously, precipitated by the British government's desire to create reservoirs to supply parts of England with water.

Figure 7: Construction of the Elan Valley dam (This image appears in Betty's digital story. It was provided courtesy of BBC Wales. Date and copyright unknown)

Transcript of Betty's Digital Story

'*As I look down at the vast tracts of water that are the dams of the Elan Valley, I cannot help but wonder how my great grandparents felt when told they had lost the fight to save the valleys of Nant Gwilt and Cwm Elan.*

Their land would be lost to them, as would the land of their friends and neighbours, in order to supply water for a far distant city. Could they envisage the changes to their way of life?

In the process of flooding the valleys, the school, church, chapel, two squires' houses, small farms and cottages disappeared. Bodies had to be exhumed.

My family at Henfron were left stranded in the farm on the hill with no road for over fifty years.

They must have been saddened to see their friends and families move away. The fact that they stayed, weathered the storms that came their way, kept working the land to provide for their children and their children's children, so they grew and thrived, is a testament to their strength of character and to their commitment to the land they farmed.

This character has been sustained throughout the generations now the sixth generation. My great nephew and great nieces have the chance to continue making their hopes and dreams a reality.

As the oldest living family member to a farm here, I know that what was lost is lost but we still keep the memories alive."

Betty's story is one of dry-to-wet experience of flooding, as opposed to the more ubiquitous documented experiences of clearing up after flood damage: wet-to-dry experiences. The story of the impact that flooding the valley had upon its inhabitants is one that has entered the annals of community memory both within the Elan Valley area of Wales and beyond. Many generations later, people across Wales continued to talk of the perceived outrage that was bestowed upon the communities of the Elan Valleys in the name of the English; indeed the author remembers such conversations from her own childhood in the valleys of south Wales.

Betty refers to the requirement to create a supply of water for a "far distant city" (Birmingham) and her story encapsulates the destruction of a small, closely knit community that was required to fulfil this need. The Elan Valley lakes remain today admired as an area of beauty and visited by tourists from around the world. Betty's story acts as a powerful reminder of the narrative of community hardship and devastation that lies behind one of Wales's leading tourist destinations and the publication of her story on the BBC's *Capture Wales* website provides a key archive for local memories and unofficial voices on this Welsh water conflict. Such flood memories, previously inaccessible and potentially lost, can now be accessed for inter-generational learning.

Just as people have their photographs taken in front of flood memorials, as people mark their walls in what might be thought of as a reminder of their former and possible future woes, as people have archived stories that had 'entered the annals of community history' through the vehicle of *Capture Wales*, so they can be seen to memorialise their flood encounters through the medium of song. There is a particularly rich song tradition in the blues, a genre originating in the great floodplain of the Mississippi delta and, just as other memorials (such as war memorials with their material representation of names) are there to help in the 'necessary art of forgetting' (Winter 1995: 115), so we can see the blues song as an aid to healing, for as Oliver (2003: 9) points out, "Blues is often melancholy, for 'the blues' is a state of mind as well as a form of music; many singers played and sang the blues to rid themselves of 'the blues'".

Island 4: Empty Bowser Blues

Folk song as an informal archive

'Charlie Patton's songs like 'Pony Blues' or 'High Water everywhere' seem to burst from the very bedrock of the blues … He doesn't simply sing about being in jail, but names the small-town police officers who put him there. Hearing his songs is like spending an afternoon travelling the back roads with a local historian … Look, that's where the flood reached in '27 –

Backwater at Blytheville,
Done struck Joiner town,
It was fifty families and their children
Some of them sank and drowned' (Russell 2000: 42)

Charlie Patton recorded between 1929-1934 and '… we are free to wonder whether a line like "every day seems like murder here" is humorous exaggeration or a momentary twitch of the curtains, momentarily revealing the daily reality Patton's juke-joint listeners came to forget'(Russell 2000: 212). Just as we are, in fact, free to wonder at the material we find in the official archives (the Archive, as Carolyn Steedman consistently refers to it throughout *Dust*, a convention I will adopt here to demark the official Archive from unofficial ones) because '… nothing starts in the Archive, nothing, ever at all, though things certainly end up there. You find nothing in the archive but stories caught half way through: the middle of things; discontinuities' (Steedman 2001: 45). And just as we should not approach the blues, where reportage is mixed with a poetry that 'seeks to illuminate and realise the desires of men and women' (Garon 1975: 63/64), expecting 'finished pieces of literature, something they were never intended to be' (Evans 1971: 53) neither should we go to the Archive, '… made from selected and consciously chosen documentation from the past and also from the mad fragmentations that no one intended to preserve and just ended up there,' (Steedman 2001: 68) looking for a finished history.

While there are, of course, flood songs in other folk traditions, there is a particularly rich vein or writing in the blues form, it having come into existence in the Mississippi delta where flooding has been a common experience. There is also an unexpected connection between the blues and the location for *Learning to Live: floods and futures*, the final conference for the Living Flood Histories Network held in Gloucester, England in 2011.

Gloucester is host to an annual blues festival and in 2007, the Gloucester Blues Festival was, in the main, cancelled due of flooding. Venues both indoor and outdoor were damaged so headline acts were

cancelled, but a small number of more local events did take place. At one such event, a Gloucestershire based blues act, themselves affected by the flooding in their daily lives, performed an original song about the situation as they saw it.

Empty Bowser Blues was performed by local band Bridget and the Big Girls Blues and its lyrics, transcribed from a video posted on *YouTube*[1] read:

I woke up this mornin and my taps they were still dry
Another day carryin water makes me ring my hands and cry

I put on dirty clothes couldn't even wash my face
I picked up my bucket and went to join the race

Empty bowser blues done make me thirsty dirty and tired
flushing toilets like golddust and all the portaloos they bin hired

To get free clean water we gotta join the queue
all the worry greed and trouble give me empty bowser blues

so when the skies open, containers out to catch the rain
i'm so sorry so many people getting hurt again

and that's the empty bowser blues

While these lyrics do not have the geographical detail credited to Charlie Patton, what is noticeable in the video of Empty Bowser Blues is the reaction in the audience at certain points, the obvious identification with theme and particular. This is a flood narrative told for the people who were there at the time it was happening. Bridget read the words from paper they were so new, says she wrote the song 'last week.' It was of the moment, pertinent to the local conditions and the audience can be heard to laugh in recognition, to identify: the singer was singing *their* song.

The video clip gives us a glimpse into the way that a community talks to itself when it is un-moderated, where an answer cannot be skewed by the questions of an interviewer as no one asks the questions at all.

[1] http://www.youtube.com/watch?v=QDJA1zX7ct4 observed 1.1.2012

It gives us a pointer to the importance of folk song as an archive, to the fact that we have in these songs material collected not by the professional documenter, but rather created by people in response to their own situations. Here we see the conversations that people have amongst themselves formalised into an archive, folk song as a resource which the broadcaster Garrison Keillor records, early in his career, he began to understand as '… an invisible circle that united everyone in the country' (Keillor 1989: pxii).

While in the official Archive it can be said that '… voices from the working-class are an extraordinary rarity. All the descriptions we have are from observers, from those who penetrated the maze of greasy streets and stepped through the door of another kind of space' (Steedman 2001: 117), in folk song the voices are predominantly those of the working-class giving us as a resource an archive of the experiences, and responses to those experiences, of people routinely absent from the Archive. Just as the Archive gives us the account of one group of people '… in its quiet folders and bundles is the neatest demonstration of how state power has operated, through ledgers and lists and indictments, and through what is missing from them,' (Steedman 2001 :68) so the folk song gives us that of another, of a group who do not have the facility of permanent buildings to preserve their record, just the option of the oral record and the ability to pass that on through the singers, storytellers and griots (as we find the blues singer and guitarist Lightnin' Hopkins referred to) (Lightnin' Hopkins 1998), those who are out to talk for them, not at them. Those who are, as Woody Guthrie said he was, out to 'sing songs that will prove to you that this is your world, and that if it has hit you pretty hard and knocked you for a dozen loops, no matter how hard it's run you down and rolled over you, no matter what colour, what size you are, how you are built, I am out to sing the songs that make you take pride in yourself and in your work. And the songs I sing are made up for the most part by all sorts of folks just about like you.' (Seeger 1973: 1)

To the artist or creative practitioner concerned with unsettling dominant narratives, such flood archives can appeal not only as a source of inspiration and material but as a form or medium of expression. Their fragmentary and equivocal nature not only affords elbow room for creative imagination, but also reflects a greater uncertainty about the tenability of coherent narratives in general.

Island 5: Archives for a fluid landscape

In creating a Flood Archive of the July 2007 floods in Cheltenham, Fiona Kam Meadley started with 'found materials' - contemporaneous video postings on YouTube. Mapping these, she found they formed a comprehensive record of the floods, even though they were random contributions by different individuals (Figure 8). There were few individual postings recording the period after the floods subsided when (for the first time in living memory) the town was without piped water for two weeks after a water

treatment plant became contaminated during the floods. Photographs documenting this period were posted by Cheltenham Borough Council, forming an official record. A year after the floods, Fiona invited residents to record their memories of that time, and many of those interviewed referred to how this shared deprivation gave rise to a strong sense of community.

But what if the water shortage had lasted longer, if the water management measures had been divisive? Whose narratives would have been recorded for an archive?

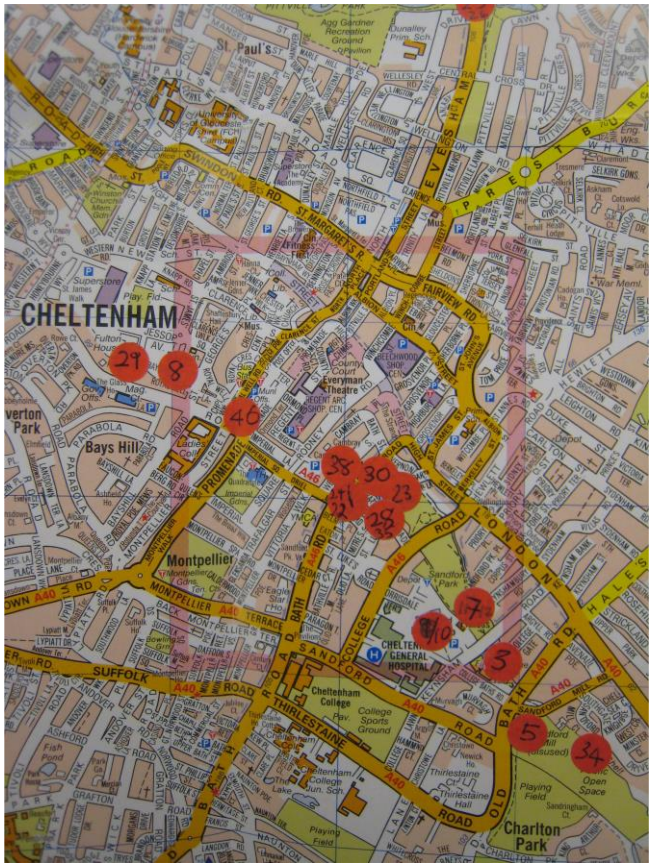

Figure 8. Fiona Kam Meadley / Flood Archive

"Location of videos of the 2007 floods found on YouTube"

The archive contains 56 video clips sourced from the web. The artist was able to locate and map 30 of the videos.

Notwithstanding the random nature of web postings uploaded by individuals acting spontaneously, collectively these videos reveal the bed of the River Chelt that normally flows beneath the town.

While aspects of flood events may be empirically quantifiable, it is not high water alone that makes a flood. Human experience of flooding arises from the collision of hydrological events with a lived landscape in all its physical, social and economic complexity. It is the confluence with existing currents that determines how flood events will be felt and interpreted within an affected community, and latent power relations are brought into sharp relief by the floods (Smith 2006; Squires and Hartmann 2006). Conventional archival practice may objectively record the topography of events without addressing the underlying inequalities they expose.

Ursula Le Guin, in the introduction to her novel "Left Hand of Darkness", discusses the paradox that writers of fiction invent complicated lies in order to tell a bit of the truth (Le Guin 1989). Where events are contested, the relationship between fact and fiction becomes unsettled. Fiction is proposed as a space to address knowledge which eludes, or is omitted from, conventional narratives. The conventional association of truth with verifiable data is rejected as an over-simplification, one which disregards the impact of unequal access and authorship in shaping the archival process. Instead the deliberate departure from fact creates an opportunity to investigate alternative perspectives and to disrupt implied hierarchies of knowledge.

Beirut-born artist Walid Raad explores this theme in relation to the contested history of South Lebanon, approaching it as a kind of no-mans-land in which there is no agreed unifying account of events. Raad's Atlas Group project (www.theatlasgroup.org) houses an 'archive' in which verifiable fact is of little consequence. Combining found and fabricated materials in an obliquely surreal collection of notebooks, still images, video shorts and other objects, the archive presents the viewer with a kaleidoscopic array of banal and disturbing fragments whose authenticity remains forever dubious yet strangely convincing.

Brian Massumi, analysing the role of weather in contemporary American politics, likens extreme weather events to war as an element in the atmosphere of endemic threat which underpins the neo-liberal regime of power (Massumi 2009). The parallel also holds true on the ground - experienced as indiscriminate traumatic events of external origin, influenced by factors outside the influence of ordinary citizens, both nevertheless affect vulnerable groups disproportionately, and so serve to exacerbate or to reinforce normalised inequalities within society. Official histories of both war and weather are seen to have little semblance to the individual lived experienced of protagonists and victims on the ground.

Raad's work examines this tension in a new context, appropriating the language and authority of the official archive while unsettling the premises of conventional archival practice. By blurring the line between fact and fiction, what he examines is not the past so much as the process by which we create it - his archive becomes a device for examining the present.

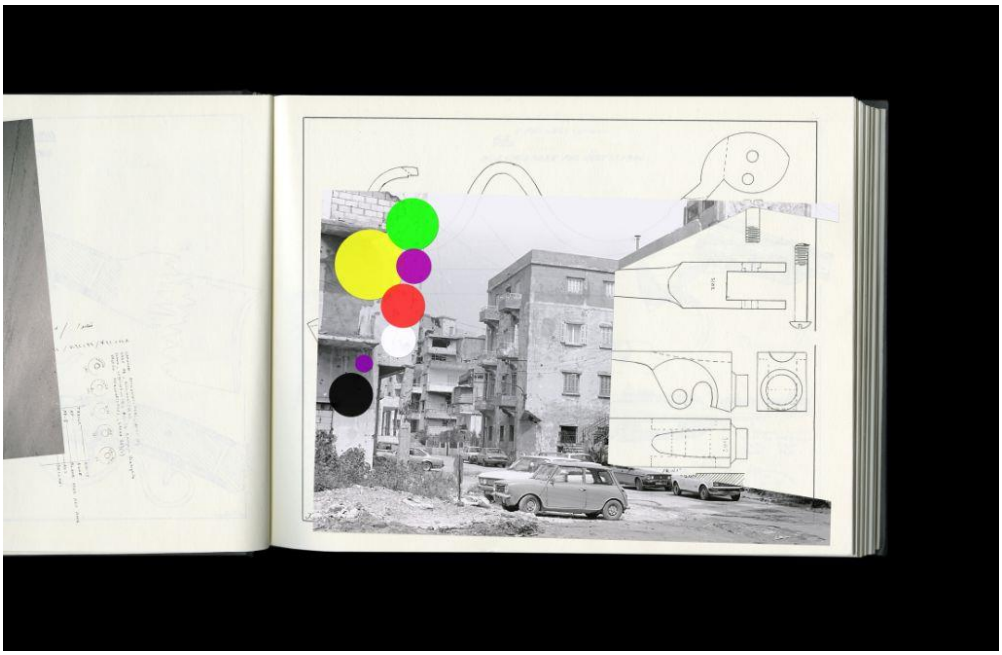

Figure 9: Walid Raad / The Atlas Group

"*Let's be honest, the weather helped"*

Black & white photograph of Beirut in 1980s, annotated to record shrapnel marks (colour coded to match manufacturer's markings**)**

Jethro Brice's work on the FutureMuseum project (http://futuremuseum.org.uk) adopts a similar strategy in approaching the future as an area of uncertainty, which in turn reflects a contested present. A collection of artefacts, models and documents of uncertain provenance, the Museum presents a fragmentary archaeology of the future. Projection into a virtual future space not only provides a route to imagining possible futures but, more importantly, it helps us to see the present from a perspective less constrained by current dominant narratives. It allows us to draw a possible thread of continuity, from counter-narratives of the past to future solutions, finding resilience in the realisation that landscapes evolve on a longer time-scale than human societal structures.

The project explores the past tense as a creative strategy, one that unsettles our relationship to the present and offers us a long perspective on our place in a fluid landscape. What might rising sea levels look like, from a point removed by time from the devastating tragedies associated with momentous change? How might an appreciation of this mitigate or alter the circumstances in which we, subjects of the interim, find ourselves?

Figure 10: Jethro Brice / FutureMuseum
"*Artist's Impression of a Coastal Settlement in the Early Post-Catalystic Period*" (detail)
Found materials, 120 x 120 x 30 cm.

This intricate scale model in the style of a museum display recalls a small coastal settlement as it may have looked, c. 2100-2200 AD. It shows the ruins of a city re-inhabited after it was abandoned due to flooding by rising sea levels in an earlier century.

Braided islands; braided threads

These 'islands' explore different aspects of archiving as process, engagement, and recovery – in the past, present and future – interwoven around the theme of recording changing knowledge, memory and power relationships in relation to floods, communities and other stakeholders**.** Charting these 'islands' - some stable, some more ephemeral and reworked - allows an archipelago of different themes and questions to be drawn out in the process.

Fact versus fiction

There is the consideration of fact versus fiction in archiving. Should we see a solid dividing line between the two, a graduation, or is there in fact a more complex relationship? Can we, for instance, assume the flood markings are 'fact' and the FutureMuseum's models are 'fiction'? Just as the notion of community in flood risk groups is frequently contested (Coates 2009), so flood histories and their materialisation (including flood marks and flood narratives) can be contested by both experts and communities. So, we might ask: What if there is not one community but different communities or other stakeholder groups in conflict with each other? In the aftermath of Hurricane Katrina, for example, voices from among the predominantly black and working-class communities hit hardest by the floods sometimes sang a different tune from that of the mainstream media - a resurgent current of opinion that can be traced back through the contested history of Mississippi flood management throughout the modern era.

Edward Said used the concept of 'contrapunctual' to make space for conflicting narratives and voices. Here in the flow, the themes we find emerging include the potential for conflicting flood narratives – tensions between the formal and informal/local, the 'official' versus the 'unofficial', and changing understandings of 'expert' sources (McEwen and Jones 2012). Arguably, fluid interpretations of landscape require other stories and different voices to be heard. Also emergent is the potential for unintentional or intentional myth and fiction in the archives. While potentially problematic in hydrological analysis, this can be positively embraced in future scoping and artistic practice.

Changing nature of material archived

Also emerging from the 'islands' is the changing and increasing role of community in co-generation of archival material. How can archives both preserve and create community resources in the context of flood risk? Derrida (1996: 18) proposes: 'what is no longer archived in the same way is no longer lived in the same way'. Changes in technology have had significant impacts on archiving and access (see additional flotsam). The concept of 'found material' is important here, and the internet a major source of this. Spontaneous postings of blogs, photographs, videos by individuals on social networks like *Flickr*, *YouTube* and *Twitter* are often made as part of an immediate response to a crisis, added as events unfold, the person posting them engaged with the moment often in awe or disbelief of the situation that they find themselves in or that they are recording. Documentation of longer term and less visible effects, however, are less likely to be recorded in this way.

Who archives? Community archivists

We can see that the role of archivist is changing – from a major focus on institutional archiving to the embrace of community archives. This has implications for archives and culture – what is archived and valued. Ephemeral and non-material elements of the human experience of flooding are important here. The arts can have a key role both in mediating and recording memory in communities, and also in constructing and deconstructing narratives around archival resources and in eliciting a response to recorded floods. The distinction between expert and local knowledge contributions to flood archives is becoming increasingly blurred, as, in journalism, is the difference between the paid journalist and citizen journalists where we now see media professionals relying on video postings and blog entries from ordinary people who have access to places and hence stories from which they would otherwise be excluded.

Changing archival practice: ownership, access and permission

Other questions drawn from the 'islands' include issues of ownership, access and permission to add. This poses the question: archives created by whom, and used by whom? A key theme is the value of community-owned archives for community memory, capturing lay, local knowledge and its use for resilience and to petition for environmental justice. Another issue for archives in a changing world is access. New web technologies have removed issues of scale and location in access – linking local and global flood impacted communities (e.g. in posting flood stories on *YouTube*). Archives can at once be small and personal (shared photos in an album) yet shared internationally within online flood risk communities.

Changing use of archives

A key characteristic of resilient flood communities is post disaster learnings that can inform adaptive capacity and preparedness for future events (Dufty 2008). Flood archives have strong potential for propagation of 'vertical' flood memory in communities and as a resource for social learning, setting learning in context of informal/ local/lay knowledges and experiences (McEwen 2011; McEwen *et al*. 2012). This is all the more critical with UK policy shifts in flood management - from government responsibility to more distributed responsibility for dealing with increasing flood risk, and notions of flood citizenship (Tunstall *et al*. 2011). The positionality of users of flood archives is also increasingly important (cf. Bailey *et al*. 2009).

Future archives

The flood archive is as much (or more) about the future as it is about the past. What of new relationships to the flood archive? The internet arguably facilitates a process of 'democratisation', shifting power and

memory, dismantling the hierarchies that have traditionally determined not only access, but editorial control over the act of archiving. Digital and social media, however, are by nature fluid and transient. Will wider access and permission have a lasting impact on the form and content of archives beyond the moment? With the internet an increasingly monitored and contested virtual space, might community archiving in fact remain a marginal and ephemeral practice? A key theme among the 'islands' is the tension between community stories and institutional stewardship – the lack of trust that people have of the 'official', the feeling that their story will be taken and manipulated; the impression they have that they are expected to tell their story in a certain way, to fit a certain template or audience. The scope of archiving activity (academic, administrative, social) of weather extremes has already been widened to include a broader range of voices, formats and media. 'Rather than extend the walls of the archive to place it around the everyday world' (cf. Feathertone 2000: 161); here we see the archive extended to embrace extremes that may become more normal. Such changing practices of archiving may constitute an improvement, both quantitative and qualitative, to institutional archives. Whether this will substantially alter the process whereby key narratives are shaped within the archive is uncertain. Other forms of archive might be needed if we are to see not only community inclusion or participation but community ownership and stewardship, an arrangement whereby the longer view is incorporated into the communal archival practice.

Conclusions: fluid interpretations of landscape

We have explored the notion of an archive for fluid landscape, as a key resource in learning to live with changing flood risk and uncertainty, interweaving different disciplinary perspectives. Formal flood archives are used by experts in the collection of historical records, or to denote the physical or virtual space in which they are located, but are never neutral in terms of knowledge and power. Never has it been more important to question the archive, and while the informal archive can pose a number of problems to the empirical researcher, this uncertain terrain is in many ways aptly suited to the investigation of fluid landscapes. To a certain extent, the practice – all practices – of archiving may be seen as a process of constructing narrative. The informal archive, by virtue of its rich variegations and undisciplined propagation, declines to conform neatly with a single narrative course, but finds its strength instead in diversity and fluctuation. Flood histories in particular are prone to bifurcation. Informal archives in their various forms present a reservoir of parallel histories – preserving those strands which sometimes run contrary to dominant narratives.

In the course of the AHRC *Living Flood Histories* research project, the possible aspiration was posited of 'thinking like a wetland'. If we read landscape broadly as denoting our conceptual as well as our physical environment, then learning to understand a fluid landscape requires of us archival approaches that can accept uncertainty as fundamental, not detrimental, to its process.

Additional flotsam

'Floating the Ark'

Dartmouth Flood Observatory - *Global Active Archive of Large Flood Events.*
http://www.dartmouth.edu/~floods/Archives

Hurricanes Rita and Katrina Web Archive - http://websearch.archive.org/katrina/

Hurricane Digital Memory Bank: Collecting and preserving the stories of Katrina and Rita
http://hurricanearchive.org/

Community Flood Archive Enhancement through Storytelling (Co-FAST)
http://insight.glos.ac.uk/severnfloods

UK Floods Flikr group http://www.flickr.com/groups/ukfloods/

'Flood songs for an unmade album'

The Flood – recorded by Mick O'Halloran
http://ozfolksongaday.blogspot.com/2011/11/flood.html

The Empty Bowser Blues – Bridget & The Big Girls Blues
(Live at Gloucester Blues Festival 2007)
http://www.youtube.com/watch?v=QDJA1zX7ct4

John Lee Hooker = Tupelo
https://www.youtube.com/watch?v=77pmWCpMNkI&feature=related

Texas Flood - Larry Davis 1958
http://www.youtube.com/watch?v=boulE-ihcoY
also: Texas Flood - Stevie Ray Vaughn & Double Trouble 1983
http://www.youtube.com/watch?v=wVjdMLAMbM0

Big Bill Broonzy - Southern Flood Blues
http://www.youtube.com/watch?v=suKZ-BtswRo&feature=related

When the Levee Breaks - Kansas Joe McCoy and Memphis Minnie in 1929
http://www.youtube.com/watch?v=i6C_5wxkuAQ
also: When the Levee Breaks - Led Zeppelin from the album Led Zeppelin 4
http://www.youtube.com/watch?v=WbrjRKB586s

High Water Everywhere - Charley Patton. Recorded as a two part 78 recording in October 1929. PT 1
http://www.youtube.com/watch?v=72oQy_M7h4Q

"Randy" Newman - Louisiana 1927.
http://www.youtube.com/watch?v=MGs2iLoDUYE

Back Water Blues - Bessie Smith (James P.Johnson piano) 1927
http://www.youtube.com/watch?v=wgBWGR0E83Y

Lonnie Johnson - Flood Water Blues (1937)
http://www.youtube.com/watch?v=PdRNJy7hqU8

Katrina Blues by Marva Wright (from the album After the Levees Broke)
New Orleans: Katrina Blues Revisited
http://www.youtube.com/watch?v=N3IyNvt9kiU&feature=related

Katrina Blues - Pat ("Mother Blues") Cohen with Ron Hunter and his band on August 3, 2007
http://www.youtube.com/watch?v=sTIrfLcHhOo

Katrina Blues - no name (but a very personal tale)

http://www.youtube.com/watch?v=yTy-_e-brRI&feature=related

Five Feet High And Rising - Johnny Cash (with introduction about his own experience of flooding)
http://www.youtube.com/watch?v=5mf-BIZumaA&feature=related
"We can make it to the road in a homemade boat/That's the only thing we got left that'll float/It's already over all the wheat and the oats/Two feet high and risin'"

Jon Boden - Has Been Cavalry from his album 'Songs From the Floodplain'
(a tale from a dysfunctional future) http://www.youtube.com/watch?v=ycjTMvXqIds

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Biographies

Lindsey McEwen is Professor in Environmental Management, University of the West of England, Bristol. Her research areas include: historic flood patterns in an environmental change context and their implications for flood risk assessment; fluvial landscape sensitivity to changing flood patterns (sustainability science for catchment management); flood hazard management; flood education for community resilience, flood science communication, and community-based learning. Her research on changing flood risk over the historical period has focused on Scottish and Norwegian rivers, as well as more locally on the River Severn. In 2010, she led an interdisciplinary AHRC network entitled: *Learning to Live with Water: Flood histories, Environmental Change, Remembrance and Resilience* (www.glos.ac.uk/livingfloodhistories)**.** This explored the role of flood narrative in building community resilience – past, present and future. She headed a JISC-funded 'Community Engagement' project Co-Fast (Community Flood Archive Enhancement through Storytelling) which trialled the use of digital story telling for capturing oral history accounts as a resource for River Severn communities (insight.glos.ac.uk/severnfloods). She is currently leading a 30 month interdisciplinary project entitled: '*Sustainable flood memories and the development of community resilience to future flood risk: a comparative study of three recently flooded communities*', UK Economic and Social Research Council funded (www.glos.ac.uk/floodmemories). Professor McEwen is a UK Higher Education Academy National Teaching Fellow linked to her interests in community-based learning.

Dave Reeves is a freelance writer, performer, historian and blues musician. He is currently employed as Heritage Project Officer at Shelton Hospital, Shrewsbury, the last working Victorian Asylum in the UK, which closed its doors in September 2012. His latest publication *Black Country Dialectics*, is a book and cd combination from Offas's Press. A broadcaster for the internet radio station *Radio Wildfire*, in February 2013 he becomes Poet-in-Residence to the *Black Country Living Museum.*

Jethro Brice is an artist whose practice spans public art, sculpture, drawing and installation. He works primarily with found materials and languages in different media and settings, moved by an interest in the enigmas and conflicts of human existence in and with nature. His FutureMuseum project has appeared at festivals and galleries across the Southwest, and he is currently working on a collaborative performance adaptation with Kilter Theatre, Bath. He is a graduate of the Glasgow School of Art (BA*(hons)* Environmental Art, 2006) and has lived and worked in cities around the UK, Europe and the Middle East.

Fiona Kam Meadley is an artist working primarily with video to uncover hidden narratives. Her interest in archives is both as a source of materials and as a process. For the Wellcome Trust she created a video installation at the Edward Jenner Museum incorporating the museum's archive materials. She initiated the *Barton Street Recordings*, an archive of the different languages spoken on a street in Gloucester; and

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